



Homeland Security

Broad Agency Announcement (BAA) No. 10-11

**“Complex Event Modeling Simulation & Analysis (CEMSA):
Real-Time Analysis Communication Environment (RACE)”**

U. S. Department of Homeland Security

Science & Technology Directorate

Infrastructure and Geophysical Division

Table of Contents

I. INTRODUCTION

II. GENERAL INFORMATION

III. AWARD INFORMATION

IV. ELIGIBILITY INFORMATION

V. APPLICATION AND SUBMISSION INFORMATION

VI. EVALUATION FACTORS AND PROCEDURES

VII. SELECTION PROCESS

VIII. ADMINISTRATION INFORMATION

IX. OTHER INFORMATION

I. INTRODUCTION.

This announcement is a Broad Agency Announcement (BAA), as contemplated in Federal Acquisition Regulation (FAR) Subparts 6.102(d)(2) and 35.016. A formal Request for Proposals (RFP) will not be issued.

The U. S. Department of Homeland Security (DHS) - Science & Technology (S&T) Directorate will not issue paper copies of this announcement. DHS - S&T reserves the right to select for award and fund all, some, or none of the Full Proposals received in response to this solicitation. No funding for direct reimbursement of proposal development costs will be allowed. Technical and cost proposals (or any other material) submitted in response to this BAA will not be returned. However, depending upon the markings on the proposal, DHS - S&T will adhere to FAR policy on handling source selection information and proprietary proposals. It is the policy of DHS - S&T to treat all proposals as source selection information and to disclose their contents only for the purposes of evaluation.

Awards will most likely take the form of procurements. In the event an Offeror or subcontractor is an Federally Funded Research and Development Center (FFRDC), U. S. Department of Energy National Laboratory, or other Federally funded entity, DHS-S&T will work with the appropriate sponsoring agency to issue an interagency agreement pursuant to the Economy Act (31 U.S.C. 1531) or other appropriate authority. Therefore, the applicable laws and regulations governing the type of document used for award will depend on the vehicle chosen by DHS - S&T. In this regard, Offerors should propose their preferred award vehicle for DHS S&T to consider for award.

II. GENERAL INFORMATION.

1. Agency Name.

U. S. Department of Homeland Security (DHS)
Science & Technology Directorate (S&T)
Infrastructure/Geophysical Division (IGD)
245 Murray Lane SW
Washington DC 20528-0001

2. Research Opportunity Title.

“Complex Event Modeling Simulation and Analysis (CEMSA): Real-Time Analysis
Communication Environment (RACE)”
Broad Agency Announcement.

3. Program Name.

Modeling, Simulation and Analysis (MS&A).

4. Research Opportunity Number.

BAA No. 10-11.

5. Response Date.

White Papers Due: 60 Days after Issuance of BAA.

Full Proposals Due: 30 Days after Issuance of Invitation.

(See “Schedule of Events” paragraph elsewhere in document for actual date and time.)

6. Research Opportunity Description.

The Homeland Security Act of 2002 (Public Law 107-296) states that DHS - S&T will “support basic and applied homeland security research to promote revolutionary changes in technologies; advance the development, testing and evaluation, and deployment of critical homeland security technologies; and accelerate the prototyping and deployment of technologies that would address homeland security vulnerabilities.” This includes federal, state, local and critical infrastructure sector operational end users for homeland security purposes.

Pursuant to this mission, the Infrastructure/Geophysical Division seeks technologies to improve and increase the nation’s preparedness for and response to natural and man-made threats through superior situational awareness, emergency response capabilities, and critical infrastructure protection. The focus of this BAA is the Real-Time Analysis Communication Environment (RACE), which is in the area of modeling and simulation, and meets the expressed high-priority technologies for the Complex Event Modeling, Simulation, and Analysis (CEMSA) system for integration into the Risk Development and Modeling Branch (RDMB) capability portfolio of existing modeling and simulation systems. RDMB manages the in-depth Critical Infrastructures and Key Resources (CIKR) analysis leveraging advanced modeling and simulation and capability development mandated by Congress. The work completed by this BAA will enhance the congressionally-mandated National and Regional analysis, modeling, and simulation capability the capability of analyzing disruptions on CIKR within the time constraints of rapid decision cycles.

In order to rapidly achieve an analysis capability to address disruptions to CIKR systems and estimate impact at the local, regional and national levels, RACE will leverage the current Risk Development and Modeling Branch portfolio of analysis, modeling and simulation tools. The result will be a set of tools complementing CEMSA and being interoperable across the suite of RDMB models and visualization systems which will operate within the Hierarchical Yet Dynamic Reprogrammable Architecture Critical Infrastructure Risk Decision Analysis System environment. In addition, to support the mission needs to work with sensitive data and to support a broad set of customers; RACE must operate on both unclassified DHS networks and on the Homeland Secure Data Network (HSDN) at the secret level. The Principal Investigator and any of his/her team who will have access to the Homeland Security Data Network must hold a secret clearance.

6.1 Research & Development Themes.

Research themes to be addressed under this BAA include the following. A white paper/full proposal may address one or any combination of the themes listed below.

- Decision support including sensitivity analysis, response time available, and mitigation options
- Psychological consequence assessment
- Techniques and formal methods for infrastructure interdependencies
- Data resources, their infrastructure, fidelity, resolution, and currency
- Incorporating information intelligence in models "on the fly"
- Model validation & verification and user confidence
- Parallel & Distributed Simulation for complex systems in heterogeneous computing environments; provide Feedback from Field Analysts into CIRDAS system
- Policy and procedures for conducting consequence analyses and incorporating the results of these analyses with other risk information in Critical Infrastructure Risk Decision Analysis System (CIRDAS)

6.2 Operational Requirements.

The RACE Operational Requirements establishes high level requirements to meet needs as described by the Risk Development and Modeling Branch (RDMB) within the DHS Office of Infrastructure Protection (IP), to enhance HITRAC analytic agenda and to facilitate the interaction between providers of complex Modeling Simulation and Analysis (MS&A) and field-deployed personnel who are collecting improved data about infrastructure conditions and impacts in a dynamic risk environment. RDMB's mission includes guiding the development of new capabilities to meet infrastructure risk management decision needs, and managing complex analysis capabilities to support improved decision making. This set of requirements establishes Risk Analysis Communication Environment (RACE) which is focused on feedback from the field into CIRDAS that provides users with a set of tools that takes in risk information which is then communicated directly to complex analytic capabilities at a regional or national analytic center, providing the basis for dynamic readjustment of interdependency models and real time cascading effects analysis, both for the field user and the national or regional analytic center. RDMB knows specifically that IP Enterprise would benefit from this tool, and also believes that the organization of the National Infrastructure Protection Plan (NIPP) would allow analysis derived from CIRDAS to be shared with State and local authorities engaged in the infrastructure protection partnership, as well as other federal responders and field planners, such as FEMA.

RACE will add capabilities to the Complex Events Modeling, Simulation, and Analysis (CEMSA) currently being developed through funds from S&T. RACE will also support the Critical Infrastructure Risk Decision Analysis System (CIRDAS) currently being developed by RDMB, the applied sciences portion of the Homeland Infrastructure Threat and Risk Analysis Center (HITRAC). The CIRDAS serves as a framework of integrated capabilities and provides a platform for analysis to support risk-informed decisions. The capabilities CIRDAS integrates are Infrastructure Consequence Analysis (ICA), Infrastructure Vulnerability Analysis (IVA), Infrastructure Hazard Analysis (IHA), and the integrating component of these capabilities, Infrastructure Decision Analysis (IDA). RACE should directly support the IVA, by providing access to systems vulnerability analysis capabilities that help determine the resiliency of systems to emerging incidents and losses, as well as the ICA, by providing access to assessments of the cascading impacts of losses through interdependencies. In addition to accelerating the intake of

newly discovered facts into updated simulations for national and regional analyses to be maximally informed, RACE also provides a learning feedback element in which predicted, modeled failures can be corrected by field observation, and data and model validation achieved in a real world environment. Fundamentally, RACE provides a synthesizing means of rapidly assimilating adjustments to a common operating picture, into the “so what” approach to risk-informed decision support, with national, regional, State and local authorities all gaining the same information in near real time.

6.3 Mission Requirements.

Mission requirements for RDMB come from both public law, the National Infrastructure Protection Plan, DHS Strategic Plan, Office of Infrastructure Strategic Plan, Infrastructure Analysis and Strategy Division Strategic Plan, and from the Risk Development and Management Branch Program Plan.

6.3.1 Concept of Operations.

RDMB-directed analysis supports DHS crisis action response, crisis action planning, contingency planning, policy analysis, and regulatory analysis. They respond specifically to the need for real-time analysis during incidents, to provide complex, adaptive systems analysis and infrastructure interdependency analysis for incidents of many types, in a variety of environment to support strategic and operational level planners at DHS HQ, DHS Components, and for NIPP partners.

It is not uncommon for decision makers to expect complex analytic results to inform them of things that can only be observed directly by field personnel or other common sensors, such as reporting. These inputs must be updates in the dynamic decision environment. They are absolutely essential to making the analysis as useful as possible. It is also not uncommon for field personnel and State authorities to experience frustration over the lag time between national authorities’ priorities in a steady state, to the emergent priorities of a crisis. The field personnel are trying to deal with inputs about observed problems, while national and regional reporting focuses on establishing the status of nationally and regionally critical infrastructure. These are both legitimate decision making requirements. But a tool that allows field personnel to input data, upload and affect the simulation of the cascading effects and the predicted area of impact puts them in a position to get all risk management partners looking at a common operating picture.

An example of an event that would need real-time analysis would be an earthquake in the New Madrid Seismic Zone. The hundreds to thousands of people who are part of the field assessment and response and recovery process, distributed across several counties and States, need to be able to collect information efficiently and intuitively, rapidly communicate it to national analytic centers, and to receive information that provides them with “investigative leads” about new hazards, infrastructure service disruptions, etc. predicted by complex modeling and analyses that have been rapidly returned to them while they are still in the field. This helps to control the consequences and focus resources after the earthquake.

The type of information that is needed to support the feedback of field analysts into CIRDAS includes geolocations, infrastructure, its condition and status, whether it is out of operation due to direct impacts or cascading effects, whether it requires emergency

shut down, or is inaccessible by road, etc. PSAs and first responders need to be able to enter real-time data which then can be fused in a national analytic center in order to update the common operating picture, which is informed not just by the inputs received, but by the updated modeling that reflects cascading impacts across all infrastructures. With the information provided by PSAs and first responders entering a dynamic risk analytic environment, potential economic, transportation, financial, emergency response, bulk fuel, and electric power systems consequences could be reduced.

6.3.2 Analytical Capabilities.

The analytical capability to be provided under this BAA must address the following three key functional areas:

- Enhance the HITRAC Analytic Doctrine for Decision support, including techniques for using predictive modeling, simulation and analysis with alternatives exploration as the goal; response time available; mitigation options, psychological consequence assessment; techniques and formal methods for infrastructure interdependencies; and information on data resources, their infrastructure, fidelity, resolution, and currency.
- Enhance the HITRAC Capability Based Assessment (CBA) process which has three underlying concepts: 1) planning under uncertainty – the CBA process plans for a wide range of possible scenarios, providing a means to develop capabilities for a wide range of potential future strategic and operational circumstances; 2) capabilities not solutions – the CBA process defines requirements with a focus on capabilities, rather solutions. Thus, while planning to fill capability gaps, there can be competition amongst solutions to ensure that the most effective option is selected; 3) joint perspective – the CBA defines the needs from a joint perspective instead of considering single problems or scenario only. This way, potential solutions can be identified which close capability gaps across multiple scenarios, maximizing efficiency.
- Include incorporation into the day-to-day steady state infrastructure protection processes, and use in training environments with simulations running at high-speed for the exploration of alternatives, and at real-time to replicate the real pace of incidents.

To address the requirements operationally, RACE must provide capability to:

- Enable quick response input and integration into multiple, disparate models, incorporating consequence and other analyses, to address specific questions, and provide analytical capability scaled to available time and budget.
- Display, most likely through remote access, the dynamics and interdependency of complex infrastructure systems and functional losses, as well as economic consequences, and expected casualties
- Integrate with and develop a centralized architecture that is capable of providing real-time analysis, as well as training simulations, on key issues involving the Nation's critical infrastructures using a customized, integrated set of the best available infrastructure, performance, system behaviors and disruption models.

For example, to address a dam disruption, RACE would take inputs regarding dam structures and failure and seamlessly use GIS-based tools to pinpoint updated real-time data and to display multi-dimensional flow of water through the downstream geography. It would display the individual infrastructures believed to be affected and the nature of

the likely impact, as well as any cascading disruption diagrams with flagged infrastructure for further field observation or contact. It may use agent-based models to simulate evacuation and casualty issues and public health capabilities; and system-based models to evaluate losses and estimate economic impacts. This should:

- Enable the integration of real-time surveillance and integration to support simplification of models to allow dynamic reprioritization.
- Have the capability to reflect general system-wide behavior analysis, including consideration of what could go wrong, and the conditions that cause cascading failures. The analysis methods that reflect improvements in centralized models should be able to provide quick insights as to what changes in consequence emerge with different infrastructure disruptions, or by implementing different mitigations.

6.3.3 Architectural Requirements.

RACE should be envisioned as a set of modules each providing one or more tools addressing one or more of the research themes listed in section 6.1.

Among its basic requirements, RACE must enable the real-time incorporation of information on complex events, integrating the data intake into established models for infrastructure interdependencies. Resulting outputs from national analysis centers are integrated and provide geospatial and functional network displays that build a common operating picture for field, regional and national decision makers. Metrics for outputs are comparisons of expected loss to normal steady state conditions, or to competing decision alternatives for course of action exploration.

The above analytical capability must support an ability to interact with existing and developing infrastructure models that are suitable for system-wide behavior analysis. Any adaptation to MS&A capabilities must meet the following requirements:

- Create models that are only as detailed as is absolutely necessary for their intended use.
- Ensure mathematical transparency to enhance clarity and ease of communication, and enable explanation of the possible system behaviors.
- Confirm modeling and analysis, sufficient to engender a high level of confidence in modeling and analysis results.

6.3.4 Suitability Requirements.

- *Design.* The design is unconstrained and can contain elements of developmental, non-developmental, off-the-shelf, advanced technology or proven technology.
- *Supportability and Sustainment (Integrated Logistics).* Supportability and Sustainment (S&S) requirements will be determined at a later stage in the development process.
- *Reliability.* Mean Time Between Failures (MTBF) requirements will be determined at a later stage in the development process.
- *Availability.* RACE should be in a 100% operable and committable state at the start of a mission when the mission is called for during unknown (random) times.
- *Maintainability.* RACE should be designed for the software and data to be maintained remotely. Hardware components should be off the shelf or easily replaceable. Whenever possible, open source code should be used for ease of software maintenance.

- *Survivability.* RACE should have scalable and open source software to assist in recovery from an IT disaster.
- *Personnel, Safety, Human Factors, and Environmental Considerations.* Any normally applying to equipment provided *to field personnel in an operationally constrained environment.*
- *Training.* Training on the RACE will be conducted for beta version participants including administrators, analysts and PSAs. Once acceptance is decided upon, training on RACE will be provided to State, local and federal partners.

6.3.5 Key Performance Parameters.

- *Time.* The operational environment of CIRDAS has situation and question specific time frames for response. The crisis action efforts generally require analytical products in hours to days. RACE must operate within much tighter timelines in order to positively impact the products, as it is based off of real-time incorporation of data.
- *Extent.* RACE is aimed at increasing the complexity of infrastructure events that can be effectively analyzed. Thus, the total complexity of the events that can be usefully analyzed is a key performance parameter. A simple metric for measuring this complexity is the number of different initiators. More complex metrics may be developed to account for geographic scope, and diversity of infrastructure sectors affected.

6.3.6 Standards Requirements.

With respect to interoperability RACE must conform to all standards to operate in the unclassified DHS network environments as well as the SECRET level HSDN environment, and the CIRDAS environment. All RACE tools and data must be interoperable with existing tools and data in the RDMB Capability Portfolio.

Government requires unlimited rights to the software being developed on behalf of this solicitation.

Below is information pertaining to the standards to operate in the unclassified and classified DHS network environments.

- Vendor to provide what licenses and datasets are required.
- Vendor to specify what hardware is required.
- Vendor must supply all FIPS 140-2 certifications as part of the hardware/software specifications required for their solution
- Applications will be hosted at the DHS data centers. Redundant systems must be supplied for failover in the classified environment.
- All vendors must have personnel with appropriate clearances. No foreign nationals can participate in the planning, design or development of RACE
- DHS will be responsible for all Hardware and OS Support after install, including patches for OS.
- Vendor must also supply a test environment to test all application changes prior to those changes being installed in the operational environment.
- Vendor must comply with all DHS SDLC and Change Management processes.
- All equipment should be DHS technical reference model (TRM) compliant.

- The system must meet the requirements of the system security plan. The latest version of the system security plan will be made available to those offerors whose full proposals are selected for negotiation.
- All vendors must support the DHS certification and accreditation process to successful completion.
- All applications must successfully pass a DHS code review.
- Completion of HSDN Application Hosting Questionnaire and subsequent DHS HSDN approvals.
- All IT systems (as defined by DHS Management Directive 0007.1) being planned, designed, developed, and maintained for the Department of Homeland Security, Science and Technology Directorate (DHS-S&T), its customers, and/or with DHS data, shall align and comply at a minimum with the following (and successor documents):
 - Applicable OMB Circulars, including but not limited to:
 - OMB Circular A-11, "Preparation, Submission and Execution of the Budget."
 - OMB Circular A-123, "Management's Responsibility for Internal Control."
 - OMB Circular A-130, "Management of Federal Information Resources."
 - Section 508 of the Rehabilitation Act of 1973, per the 1998 Amendments, and the Architectural and Transportation Barriers Compliance Board's Electronic and Information Technology Accessibility Standards at 36 CFR 1194.
 - Certification and Accreditation - DHS Management Directive 4300 and NIST Special Publication 800-37, "Guide for the Security Certification and Accreditation of Federal Information System."
 - 44 U.S.C. 3541, P.L. 107-347, Section III, "Federal Information Security Management Act of 2002 (FISMA)."
 - Executive Order 13423, dated January 24, 2007, "Strengthening Federal Environmental, Energy, and Transportation Management,"
 - Guidance related to the secure coding initiative and secure coding verification may also apply. Determination of compliance shall be made in writing by the S&T CIO.

6.4 Program Structure.

Based on the requirements provided in this BAA, RACE will be a four and half year program. There will be an eighteen (18) months base period. At the end of the base period, the government will retain the right to continue performance of awards by exercising options. There will be a maximum of two (2) option periods, each twelve (18) months in duration. Below are the major milestones.

- a. *Base Period. Deliver due on September 30, 2011 - See section 6.4.1 below.*
- b. *Option Period 1. Delivery due on April 30, 2012. See section 6.4.2 below.*
- c. *Option Period 2. Deliver due on Oct 30, 2015. See section 6.4.3 below.*

6.4.1 Base Period (18 months) - There will be a funding cap of \$2.5 million to cover the combined estimated cost of ALL awards (multiple awards expected) for this base period.

6.4.1.1 Methods and Algorithms, Architecture Design and Prototype Implementation.

1. Requirement Analysis.

- a. Analysis of the needed capabilities and define formal system requirements, (e.g., requirements relating to product and input quantity, quality, timeliness;

capability scalability; inter-and intra-system interoperability; user skill and experience level; and security).

- b. Recommended modeling tools to be included in the initial prototype deliverable.
- c. Applicable industry standards and anticipated or recommended modifications to those standards.

Due Date: One (1) month from date of award.

Deliverable: System Requirements Definition Document.

2. *Design and Development of Analytical Capabilities.*

- a. Methods and Algorithms for analytical capabilities addressing one or more of the Research Themes as described in section 6.1.

Due Date: Eight (8) months from date of award.

Deliverable: Analytical Capabilities Document.

3. *Architecture Design.*

- a. Gap analysis that discusses the current state-of-the-art and gaps and strategy to achieve the specified capabilities and capabilities.
- b. Core capabilities needed to realize the concepts of operations identified to be developed into a functional prototype by phase as well as recommended capabilities for future development.
- c. Key data needs and anticipated sources.
- d. Modeling tools to be candidates for incorporation onto the modeling tool suite to be built around the architecture.
- e. Model development and maintenance tools.
- f. Recommended list of hardware, software and datasets for DHS procurement.
- g. Document key findings
- h. Critical design review

Due Date: Approximately ten (10) months from date of award.

Deliverables: 1) System Software Architecture Diagram with Supporting Explanatory Text; and 2) System Concept and ConOps Definition Document, and 3) List of hardware, software and datasets required for GFE.

4. *System Design and Prototype Implementation.*

- a. Hardware/software architecture.
- b. Interface specifications.
- c. Network throughput requirements.
- d. Develop operations concepts.
- e. Approach for identifying appropriate models and for integrating them into the system architecture.
- f. Approach for automated or semi-automated means of maintaining/updating models.
- g. System prototype. The prototype should be developed from the defined architecture and should allow employment of a set of 3 -5 infrastructure, disruption, and analytical models supplied by HITRAC to be brought together for a baseline capability demonstration and to be based on two (2) out of the fifteen National Planning Scenarios created for use in National, Federal, State, and Local Homeland Security Preparedness Activities.

Due Date: Eighteen (18) months from date of award.

Deliverables: 1) system design definition document; 2) system prototype including related hardware and software; 3) analytical capabilities document; 4)

two prototype demonstrations (early version of the prototype twelve (12) months from date of award, and the final version of the prototype eighteen (18) months after date of award.

Final version of all related documents, software and hardware, and plan for option period all are due at the end of the base period.

6.4.1.2 Develop Policy and Procedures.

1. Policy and procedures for conducting consequence analyses and incorporating the results of these analyses with other risk information in Critical Infrastructure Risk Decision Analysis System (CIRDAS). These address:
 - a. Stand-up/Stand-down procedures for activating the capability and integrating with appropriate decision cycles
 - b. Procedures to identify and appropriately route consequence analysis related Request for Information (RFI)/Request For Analysis (RFA) to the operations section, NISAC, or some other organizational element to service the request based on technical analytical and time sensitive requirements
 - c. Procedures to help analysts select appropriate analytical tools based on technical requirements of a given RFI/RFA
 - d. Procedures to capture and communicate analytical outputs and products
 - e. Production management processes to ensure timely servicing of requests and appropriate quality control standards.

Due Date: Draft version twelve (12) months from date of award; Revised draft version fifteen (15) months from date of award; Final version eighteen (18) months from date of award.

Deliverables: Standard Operating Procedures (SOP) documents for items (a), (b), (c), (d), and (e) above.

6.4.2 Option Period 1 (18 months) – Initial Operational Capability.

There will be a funding cap of \$3.25 million to cover the combined estimated costs of ALL awards (**NOTE: multiple awards expected**) under this option period.

1. Design and implementation of the system components which provides the RDMB directed analysis to perform consequences analysis of multiple, concurrent disruptions. The system should be developed from the architecture defined and the prototype developed in the base period. By the completion of this option period the performer will give a demonstration of the developed Technology Readiness Level (TRL) 5 initial system implementation to DHS-S&T and its client RDMB at the DHS Data Center or IP Joint Technology Laboratory facilities. The initial system implementation will be capable of being used with live data and operational users and will allow employment a set of (up to 20) infrastructure, disruption, and analytical models supplied by RDMB to be brought together for a baseline capability demonstration and to be based on the fifteen (15) National Planning Scenarios created for use in Federal, State, and Local Homeland Security Preparedness Activities.
2. Methods and techniques for achieving the analytical capabilities, architectural requirements, suitability requirements, and key performance parameters as described in Sections 6.3.2 through 6.3.5 respectively.

3. Critical Design Review. The performer(s) will provide a CDR to the government during this phase to determine the progress and eventual utility of the developed R&D. Guidelines for the CDR and assessment demonstration will be mutually agreed upon by the government and the performer(s) at the time of the award.
4. System integration assessment testing and operational feasibility demonstration at the DHS NAC or DHS data center facilities.
5. Initial training document package for system users.

Final version of all related documents, software and hardware, and plan for the second option period all are due at the end of this option period.

6.4.3 Option Period 2 (18 months) – Full Operational Capability.

There will be a funding cap of \$3.75 million to cover the combined estimated cost of ALL awards (**NOTE: multiple awards expected**) under this option period.

At the completion of this option period, the performer(s) will deliver an advanced, TRL eight (8) system that can be transitioned to the deployment phase in accordance to the Transition Strategy Plan developed by the performer. User and maintenance manuals as well as training packages will be delivered. Prior to final delivery to the government, preliminary acceptance testing at the DHS site will be conducted. Preliminary testing results will be delivered as part of this option period's package. Furthermore, final acceptance testing will be performed at the point of deliver and installation.

1. Deployment and implementation of RACE that satisfies all capabilities and requirements described in Section 6.3 of this BAA. Refinement and update of the system as appropriate based on the findings of the first option period and the IT Security Certification and Accreditation processes.
2. In-field user and operational assessments.
3. Transition plan for formal acquisition and transition to DHS.
 - a. System documented and accredited for use within the DHS classified and unclassified environments. All applicable documents required for accreditation to be delivered.
 - b. Training system revised and adapted to reflect operational environment at the DHS NAC and Data Center

Final version of all related documents, software, hardware and dataset lists for GFE all are due at the end of this option period.

6.5 Government-furnished Equipment and Resources.

The government will consider requests from individuals or teams for government-furnished resources and technologies. As part of this solicitation, S&T will publish a list of potentially applicable technologies.

7. Government Representatives.

Technical Representative

Dr. Nabil Adam, Sr. Program Manager
U. S. Department of Homeland Security

Science and Technology Directorate
245 Murray Lane SW
Washington DC 20528-0001

Business Representative

Christopher Wallis, Contracting Officer
U. S. Department of Homeland Security
Office of Procurement Operations
Office of Health Affairs Acquisition Division
245 Murray Lane SW
Washington DC 20528-0001

III. AWARD INFORMATION.

Anticipated award information is as follows:

1. The approximate total amount of funding available to cover the base period for awards under this BAA: \$2,500,000.00.
 - Anticipated Number of Awards: DHS S&T expects to make multiple awards, but they are not guaranteed.
 - Anticipated Award Type: Award is anticipated to be in the form of a cost reimbursement type contract(s). However, the Government reserves the right to award other types of instruments as the situation warrants.
 - Previous Year(s) Average Individual Award Amounts: N/A.
 - Anticipated Period of Performance for Award: Including potential exercise of the two option periods, the total period of performance is anticipated to be fifty-four (54) months. Proposals that build on current or previous work are encouraged. If Offerors are extending work performed under other projects, it must clearly identify the point of departure and what existing work will be brought forward and what new effort will be performed under this BAA.

IV. ELIGIBILITY INFORMATION.

This BAA is open to all responsive sources.

Offerors may include single entities or teams from academia, private sector organizations, Government laboratories, and Federally Funded Research & Development Centers (FFRDCs), including Department of Energy National Laboratories.

FFRDCs, including U. S. Department of Energy National Laboratories, are eligible to respond to this BAA, individually, so long as they are permitted under a sponsoring agreement between the Government and the specific FFRDC.

Historically-Black Colleges and Universities (HBCU), and Minority Institutions (MI), are encouraged to submit proposals, and to join others as team members in submitting proposals. However, no portion of this BAA will be totally set aside for small business pursuant to FAR Subpart 19.502.

Organizational Conflict of Interest.

Organizational Conflict of Interest issues will be evaluated on a case-by-case basis; as outlined below. Offerors who have existing contract(s) to provide scientific, engineering, technical and/or administrative support directly to DHS S&T will receive particular scrutiny.

a) Determination. The Government has determined that this effort could result in an actual or potential conflict of interest, or could provide one or more Offerors with the potential to attain an unfair competitive advantage.

b) If any such conflict of interest is found to exist, the Contracting Officer may (1) disqualify the Offeror, or (2) determine that it is otherwise in the best interest of the United States to contract with the Offeror, but include the appropriate provisions to mitigate or avoid such conflict in the contract awarded. After discussion with the Offeror, the Contracting Officer may determine that the actual conflict cannot be avoided, neutralized, mitigated, or otherwise resolved to the satisfaction of the Government, and the Offeror may be found ineligible for award.

c) Disclosure. The Offeror must represent, as part of its proposal and to the best of its knowledge that: (1) it is not aware of any facts which create any actual or potential organizational conflicts of interest relating to the award of this contract; or (2) it has included information in its proposal, providing all current information bearing on the existence of any actual or potential organizational conflicts of interest, and has included the mitigation plan in accordance with paragraph (d) of this provision.

d) Mitigation/Waiver. If an Offeror with a potential or actual conflict of interest or unfair competitive advantage determines it can be mitigated, neutralized, or avoided, the Offeror shall submit a mitigation plan to the Contracting Officer for review. Award of a contract where an actual or potential conflict of interest exists shall not occur before Government approval of the mitigation plan.

e) Other Relevant Information. In addition to the mitigation plan, the Contracting Officer may require further relevant information from the Offeror. The Contracting Officer will use all information submitted by the Offeror, and any other relevant information known to DHS, to determine whether an award to the Offeror may take place, and whether the mitigation plan adequately neutralizes or mitigates the conflict.

f) Corporation Change. The successful Offeror shall inform the Contracting Officer within thirty (30) calendar days of the effective date of any corporate merger(s), acquisition(s), and/or divestiture(s) that may affect this provision.

g) Flow-down. The successful Offeror shall insert the substance of this clause in each first-tier subcontract that exceeds the simplified acquisition threshold as set forth in FAR Part 13.

h) It is anticipated that HSAR Clause 3052.209-73 (as included in full text below) will be included in awards resulting from the BAA.

3052.209-73 LIMITATION ON FUTURE CONTRACTING (JUN 2006)

(a) The Contracting Officer has determined that this acquisition may give rise to a potential organizational conflict of interest. Accordingly, the attention of prospective offerors is invited to FAR Subpart 9.5--Organizational Conflicts of Interest.

(b) The nature of this conflict involves the development of specifications and/or requirements documents for Government needs, the operations and maintenance of systems designed and/or developed under this contract, and the accessing of proprietary information.

(c) The restrictions upon future contracting are as follows:

(1) If the Contractor, under the terms of this contract, or through the performance of tasks pursuant to this contract, is required to develop specifications or statements of work that are to be incorporated into a solicitation the Contractor shall be ineligible to perform the work described in that solicitation as a prime or first-tier subcontractor under an ensuing DHS contract. In addition, the contractor may be ineligible to operate and maintain a system it developed under this solicitation. This restriction shall remain in effect for a reasonable time, as agreed to by the Contracting Officer and the Contractor, sufficient to avoid unfair competitive advantage or potential bias (this time shall in no case be less than the duration of the initial production contract). DHS shall not unilaterally require the Contractor to prepare such specifications or statements of work under this contract.

(2) To the extent that the work under this contract requires access to proprietary, business confidential, or financial data of other companies, and as long as these data remain proprietary or confidential, the Contractor shall protect these data from unauthorized use and disclosure and agrees not to use them to compete with those other companies.

V. APPLICATION AND SUBMISSION INFORMATION.

1. Application and Submission Process.

Submitting an Offer in Response to this BAA:

Submissions will not be accepted from organizations that have not registered. Any organization that wishes to participate in this solicitation must register at: <https://baa.st.dhs.gov>.

To begin the process, go to <https://baa.st.dhs.gov>, and select BAA 10-11 from the list on the left side of the screen, and then select the appropriate topic area. Upon proper selection, buttons for registration and submission will appear. Select the appropriate registration button and fill in the requisite fields. Then submit your registration for proposal submission.

Once the registration process is complete, registrants should receive a control identification number via e-mail. This control number is needed to begin the proposal submission process. To submit your proposal, select the appropriate submission button, fill out the requisite fields, upload your files, and then submit. Users will receive confirmation of their submission via e-mail. It is suggested that this step be accomplished early in the process.

In teaming situations, the lead organization must remain the same on the full proposal, as was submitted on the white paper.

Full proposals will be delivered via upload in accordance with instructions provided during registration.

The proposal submissions will be protected from unauthorized disclosure in accordance with applicable federal acquisition laws and regulations. Offerors are expected to appropriately mark each page of their submission that contains proprietary information.

2. Classified Submissions.

- a) All unclassified proposals and white papers will be submitted electronically to <https://baa.st.dhs.gov>. Classified white papers or proposals will be mailed according to proper procedures outlined in the BAA and be maintained in an appropriately secured facility. The government intends to use contractor employees to assist in the administration of the evaluation of white papers and proposals. These personnel will have signed, and will be subject to, the terms and conditions of non-disclosure agreements.
- b) DHS-S&T does not anticipate that proposals submitted in response to this BAA will be classified, unless specifically addressed in the topic. Classified submittals cannot be transmitted via the website. Regardless, the submitter must first register on-line following the registration instructions, as provided in Section IV, Paragraph 1, to obtain a registration number. Offerors must print out the registration form and attach it as a coversheet to the classified submission located after the classification coversheet. The classified submission must be transmitted via proper classified courier as described in the National Industrial Security Program Operating Manual (NISPOM). Offerors may view the NISPOM document on-line at <http://www.dss.mil/isec/nispom.htm>. Classified submissions must include ten printed copies and one electronic copy on compact disc recordable (CD-R) media (do not use re-writable media (CD-RW/RW-/RW+). Each copy must be accompanied by the coversheet, which does not count towards the page limitations.

Classified documents must be received by the applicable due date and time.

Classified proposals can be delivered by courier to:

Director of Security
U. S. Department of Homeland Security
Science and Technology Directorate
245 Murray Lane SW
Room 10-112
Washington DC 20528

NOTE: Please send an unclassified e-mail alert to: christopher.featherston@dhs.gov before delivering classified documents.

Classification does not eliminate the requirement for offerors to comply with all other instructions and deadlines in this BAA.

3. White Paper Preparation and Submission Guidelines.

White papers are required prior to submitting a full proposal.

The due date for white papers is no later than 4:30 P.M. (Local Eastern Time) thirty (30) days after BAA Issuance. A two-stage source selection process will be used. It is required that a white paper be submitted prior to a full proposal to determine the acceptability of the proposed concept to the BAA. This process allows for comments on the white paper to the proposer who will be notified and encouraged based on white paper review. Initial DHS - S&T evaluation of the white papers will be issued via e-mail notification shortly thereafter encouraging or discouraging the submission of a full proposal. Entities discouraged from submitting a full proposal may elect to submit one at their own discretion. Awards will be made based on the full proposal.

White papers should be concise and limited to ten (10) pages. All pages shall be printed single-spaced on 8-1/2 by 11 inch paper with type not smaller than 12-point font. The page limitation for white papers includes all figures, tables, and charts. No formal transmittal letter is required. The white paper should contain the following sections:

- Cover Sheet. (must be clearly marked "White Paper"): It must include the Technical Point of Contact's information (name, address, phone, fax, e-mail, lead organization and business type), the title of the proposed work, the estimated cost, and the duration (in months) of the proposed work. (Note: The cover sheet does not count towards page limit.)
- Executive Summary: Briefly define the problem that this white paper will address and the effort's technical goals. Succinctly describe the uniqueness and benefits of the proposed approach.
- Proposed Technical Approach and Research Plan: This section is the centerpiece of the white paper. It should describe the research areas relevant to achieving program goals, detailed technical rationale, technical approach, and constructive plan for accomplishment of technical goals in support of program objectives, milestones and deliverables.
- Team Expertise and Management Plan: A summary of expertise of the key personnel on the project relevant to the program goals. If the team is multi-organizational, a proposed management structure should also be included.
- Cost Estimate: A cost estimate for resources over the proposed timeline. This cost estimate should include labor, travel and materials costs.

4. Full Proposal Preparation and Submission Guidelines.

The due date for receipt of full proposals is 4:30 P.M. (Eastern Time) 30 days after Issuance of Invitation as set forth in para. 6 below. Full Proposals will not be accepted after the due date. It is anticipated that award announcements will be made shortly after the final proposal evaluation process is complete; Offerors will be notified via e-mail of selection or non-selection for negotiation. Proposals exceeding the stated page limitation will not be considered nor evaluated.

Full proposals will consist of two volumes: a Technical Volume and a Cost Volume.

- Paper Size – 8.5-by-11-inch paper.
- Margins – 1 inch.
- Spacing – Single- or double-spaced.
- Font – Times New Roman, 12-point. Text embedded within graphics or tables in the body of the quad chart may not be smaller than 10 point.
- Number of Pages –
 - Volume 1, Technical Volume: No more than twenty (20) single-sided pages. The cover page, table of contents, resumes, and “Other DHS Support” appendix are excluded from the page limitation.
 - Volume 2, Cost Volume: No page limitation.
- Copies – The proposal shall consist of one electronic file for the technical volume and one electronic volume for the cost volume. Electronic files will be in portable document format (PDF), readable by IBM-compatible PCs. Each file size must be no more than 10 MB.

Full Proposal Content.

Volume 1: Technical.

Volume I of the full proposal shall be in the form of a technical discussion, not to exceed twenty (20) pages. Responsiveness to the order and content of sections listed in Volume I is important to assure thorough and fair evaluation of proposals. The submission of “other supporting materials” with the proposal will not be reviewed. If a proposal exceeds the page limitation, only the first twenty pages will be evaluated.

The technical proposal must cover the following points in more detail:

- Cover Page: This should include the words “Technical Volume” and the following:
 - 1) BAA number;
 - 2) Title of Proposal;
 - 3) Identity of prime offeror and complete list of subcontractors, if applicable;
 - 4) Technical contact (name, address, phone/fax, e-mail address);
 - 5) Contracts/business contact (name, address, phone/fax, e-mail address); and,
 - 6) Duration of effort (separately identify the basic effort and all option periods)
- Table of Contents.
- Official Transmittal Letter. This is an official transmittal letter with official authorizing signature. For an electronic submission, the letter can be scanned into the electronic proposal. The letter of transmittal shall state whether the proposal has been submitted to

another government agency, other than DHS -S&T; and if so, identify which one and the date when it was submitted.

- Executive Summary. Summarize the proposal and the expected benefits of the solution.
- Proposal. This describes the proposed work and the associated technical and management issues.
- Performance Goals. Describes the overall methodology and how it will meet the objectives specified in the technical description.
- Detailed Technical Approach. Describes the proposed technical issues and methodology to address the stated program objectives.
- Statement of Work (SOW), Schedule, and Milestones. Provide an integrated display for the proposed research, showing each task with major milestones. Include a section clearly marked as the SOW proposed to be undertaken. It is anticipated that the proposed statement of work will be incorporated as an attachment to the resultant award instrument. To this end, such proposals must include a severable self-standing statement of work without any proprietary restrictions which can be attached to the award document.
- Deliverables. Provide a brief summary of all deliverables proposed under this effort, including data, and reports consistent with the objectives of the work; along with suggested due dates (calendar days after the effective date of award). This section shall be severable (i.e., it will begin on a new page and the following section shall begin on a new page). It is anticipated that the proposed detailed list and description of all deliverables will be incorporated as an attachment to the resultant award instrument. To this end, such proposals must include a severable self-standing detailed list and description of all deliverables without any proprietary restrictions which can be attached to the award.
- Facilities. List the location(s) where the work will be performed, and any other facilities to be used. Describe any specialized or unique facilities which directly affect the effort.
- Government-furnished Resources. Provide a brief summary of required information and data which must be provided by the Government to support the proposed work, if any.
- Key Personnel Resumes. In Appendix A, provide resumes or curriculum vitae (CVs) for each of the key personnel. (This section will not count toward the twenty (20-page limit).
- Other DHS Support. As an appendix, provide a list of any current or pending awards or proposals with DHS. (This section will not count towards the twenty (20-page limit).
- Assertion of Data Rights. Due to the nature of this research and development project, the Government will need information to evaluate the deliverable in a field prototype evaluation scenario with Government personnel, such as the Transportation Security

Agency (TSA), Customs and Border Protection (CBP), Secret Service, etc. Therefore, include here a summary of any assertions to any technical data or computer software that will be developed or delivered under any resultant award. This includes any assertions to pre-existing results, prototypes, or systems supporting and/or necessary for the use of the research, results, and/or prototype. Any rights asserted in other parts of the proposal that would impact the rights in this section must be cross-referenced. If less than unlimited rights in any data delivered under the resultant award are asserted, the Offeror must explain how these rights in the data will affect its ability to deliver research data, subsystems, and toolkits for integration as set forth below. Additionally, the Offeror must explain how the program goals are achievable in light of these proprietary and/or restrictive limitations. If there are no claims of proprietary rights in pre-existing data, this section shall consist of a statement to that effect.

Proposals submitted in response to this BAA shall identify all technical data or computer software that the Offeror asserts will be furnished to the Government with restrictions on access, use, modification, reproduction, release, performance, display, or disclosure. Offeror's pre-award identification shall be submitted as an attachment to its offer and shall contain the following information:

- (1) Statement of Assertion. Include the following statement: "The Offeror asserts for itself, or the persons identified below, that the Government's rights to access, use, modify, reproduce, release, perform, display, or disclose only the following technical data or computer software should be restricted:"
- (2) Identification of the technical data or computer software to be furnished with restrictions. For technical data (other than computer software documentation) pertaining to items, components, or processes developed at private expense, identify both the deliverable technical data and each such item, component, or process as specifically as possible (e.g., by referencing specific sections of the proposal or specific technology or components). For computer software or computer software documentation, identify the software or documentation by specific name or module or item number.
- (3) Detailed description of the asserted restrictions. For each of the technical data or computer software identified above in paragraph (2), identify the following information:
 - (i) Asserted rights. Identify the asserted rights for the technical data or computer software.
 - (ii) Copies of negotiated, commercial, and other non-standard licenses. Offeror shall attach to its offer for each listed item copies of all proposed negotiated license(s), Offeror's standard commercial license(s), and any other asserted restrictions other than Government purpose rights; limited rights; restricted rights; rights under prior Government contracts, including Small Business Innovation Research (SBIR) data rights for which the protection period has not expired; or Government's minimum rights.

(iii) Specific basis for assertion. Identify the specific basis for the assertion. For example:

(A) Development at private expense, either exclusively or partially. For technical data, development refers to development of the item, component, or process to which the data pertains. For computer software, development refers to the development of the software. Indicate whether development was accomplished exclusively or partially at private expense.

(B) Rights under a prior Government contract, including SBIR data rights for which the protection period has not expired.

(C) Standard commercial license customarily provided to the public.

(D) Negotiated license rights.

(iv) Entity asserting restrictions. Identify the corporation, partnership, individual, or other person, as appropriate, asserting the restrictions.

(4) Previously delivered technical data or computer software. The Offeror shall identify the technical data or computer software that are identical or substantially similar to technical data or computer software that the Offeror has produced for, delivered to, or is obligated to deliver to the Government under any contract or subcontract. The Offeror need not identify commercial technical data or computer software delivered subject to a standard commercial license.

(5) Estimated cost of development. The estimated cost of development for that technical data or computer software to be delivered with less than Unlimited Rights.

(6) Supplemental information. When requested by the Contracting Officer, the Offeror shall provide sufficient information to enable the Contracting Officer to evaluate the Offeror's assertions. Sufficient information must include, but is not limited to, the following:

(i) The contract number under which the data or software were produced;

(ii) The contract number under which, and the name and address of the organization to whom, the data or software were most recently delivered or will be delivered; and

(iii) Identification of the expiration date for any limitations on the Government's rights to access, use, modify, reproduce, release, perform, display, or disclose the data or software, when applicable.

Volume 2: Cost.

The Cost Volume shall consist of a cover page and two parts. Part 1 will provide a detailed cost breakdown of all costs by cost category by calendar/fiscal year; while Part 2 will provide a detailed cost breakdown by task/sub-task using the same task numbers in the Statement of Work. Option periods must be separately priced.

Cover Page: The words “Cost Volume” should appear on the cover page in addition to the following information:

- BAA number;
- Title of Proposal;
- Identity of prime Offeror and complete list of subcontractors, if applicable;
- Technical point of contact (name, address, phone/fax, electronic mail address)
- Contracts /business point of contact (name, address, phone/fax, and e-mail address) and;
- Duration of effort (separately price the basic period of performance and all option periods)

Part 1: Include a detailed breakdown of all costs by cost category by calendar or fiscal year. The Offeror should provide a total estimated price for major demonstrations and other activities associated with the program, including cost sharing, if any. The Offeror should state whether any Independent Research and Development (IR&D) program is or will be dedicated to this effort, or if IR&D is being pursued to benefit related programs as well.

Any cost-sharing estimates should include the type of cost share (i.e. cash or in-kind contribution). If an in-kind contribution is proposed, the Offeror should provide a discussion of how the cost share was valued.

- *Direct Labor.* Individual labor category or person, with associated labor hours and unburdened direct labor rates.
- *Indirect Costs.* Fringe Benefits, Overhead, G&A, etc. (Must include base amount and percentage rate).
- *Travel.* Number of trips and travelers, destinations, duration, etc.
- *Subcontractors.* A cost proposal, as detailed as the Offeror’s cost volume, will be required to be submitted by the subcontractor. The subcontractor’s cost proposal can be provided in a sealed envelope with the Offeror’s cost volume.
- *Consultants.* Provide consultant agreement or other documentation which verifies the proposed loaded daily or hourly rate.
- *Materials.* Should be specifically itemized with quotes or estimated costs. Where possible, indicate purchasing method (i.e., competition, engineering estimate, market survey, etc.).
- *Other Directs Costs (ODCs).* Any proposed items of project-specific supplies or materials. General equipment and facilities generally must be furnished by the successful Offeror. Justification must be provided when Government funding for such items is sought.
- *Fee* (including amount proposed, base to which it is applied, and percentage rate).

Part 2: Cost breakdown by task/sub-task using the same task numbers in the Statement of Work.

The Cost Volume must be consistent with the proposed statement of work and technical volume. Activities such as demonstrations required to reduce the various technical risks should be identified in the statement of work and reflected in both the Technical and Cost Volumes of the Proposal. The Offeror should provide a total estimated cost for the major Research, Development, Test, and Evaluation (RDT&E) activities associated with the program.

5. Significant Dates and Times.

DHS - S&T will review all white papers in accordance with the table below, entitled “Schedule of Events,” using the evaluation factors described below. After the white paper review, DHS S&T will notify Offerors, electronically or in writing, either encouraging or discouraging submission of a full proposal based upon the review. DHS - S&T plans to review full proposals in accordance with the following schedule of events. A review panel will evaluate the full proposals using the factors specified under the evaluation factors discussed below in Section VI. Following that review, Offerors will be notified whether or not their proposal has been selected for negotiation.

6. Schedule of Events

Event	Date
White Paper Submission Due Date [*reference Fedbizopps posting of BAA (including BAA amendments if amendments are issued) for official calendar due date/time.]	45 Days after BAA Issuance
White Paper Review Meeting with Source Selection Evaluation Board (SSEB) Held	3 Days after Receipt of White Papers
White Paper Approvals Completed	3 Days after Review Meeting Held
Notice to Offerors submitting White Papers encouraged to submit Full Proposal Sent Out	15 Days after Approvals Complete
Notice to Offerors submitting White Papers but not encouraged to submit Full Proposal Sent Out	15 Days after Approvals Complete
Full Proposal Due Date	45 Days after Notices Sent Out
Full Proposals Review Meeting	3 Days after Receipt of Full Proposals
Review of Proposals Completed	30 Days after Review Meeting Held
Final Brief to SSA	15 Days after Review Completed

Letters Sent out and PR Process Commences	30 Days after SSA Briefing Held
---	---------------------------------

7. BAA Information.

Copies of this BAA may be downloaded from the FedBizOpps website (<http://www.fbo.gov>) or from the DHS – S&T BAA website (<https://baa.st.dhs.gov>).

8. Protection of Information Uploaded to BAA Website.

All data uploaded to <https://baa.st.dhs.gov> is protected from public view or download. All submissions will be considered proprietary/source selection sensitive and protected accordingly. Documents may only be reviewed by the registrant, authorized Government representatives, and assigned evaluators. Offerors submitting proprietary information should specifically mark or identify any information they perceive is proprietary for which they seek added protection.

9. Submission of Late White Papers and Full Proposals.

White papers and full proposals will not be accepted after the published due dates.

10. Further Assistance Needed for this BAA.

The applicable electronic mailbox for all correspondence and questions, other than the actual submission of white papers and proposals, regarding this announcement is: BAA10-11@hq.dhs.gov

VI. EVALUATION FACTORS AND PROCEDURES.

This section discusses the evaluation factors for white papers/full proposals, and the review and selection process.

DHS will use the following factors to evaluate proposal submissions through a peer or scientific review. *Each of the evaluation factors described below are listed in descending order of importance with respect to DHS's evaluation of proposal submissions. Items under the individual evaluation factors are of equal importance.*

1. **White Papers.** The factors to be used to evaluate and provide comments on white papers for this project are described in the following paragraphs. Each white paper will be evaluated on its own merit and the relevance of the specific concept as it relates to the S&T program, rather than against other white papers for research in the same general area.

- i. **Scientific Merit.** The offeror must demonstrate understanding of the critical technology and scientific challenges required to address the desired system parameters and strategy as described elsewhere within this announcement. The research approach should be scientifically sound, practical and technically defensible. The research must contribute to scientific knowledge in the topic area and the research must enumerate potential benefits of the proposed research. The

- proposal shall demonstrate an awareness of the state-of-the-art. The proposal should be well-prepared with supportive information that is self-explanatory or understandable.
- ii. **Scientific Qualifications.** The scientific standing and suitability of the Principal Investigator and his/her team will be an important point. The proposal's capability to perform the proposed work and history of performance of related work of the Principal Investigator and his/her team.
 - iii. **Test and Evaluation.** The offeror's plan to conduct technology demonstration of the systems prototype.
 - iv. **Management Plan.** S&T will review proposals for attention to schedule and budget management approach for completing all task milestones on time and on budget. Specifically, the following will be considered for evaluation: clear and sound approach for program management and coordination among all team members and organizations; plan for managing technical, schedule and cost risks; clear delineation of milestones and tasks among all team members; and management experience of program manager.
 - v. **Resources.** Proposal must demonstrate evidence that the offeror possesses the necessary resources (e.g., personnel, facilities, equipment, and timeframe) to complete the proposed effort.
 - vi. **Cost Realism.** The objective of this factor is to establish that the proposed costs are realistic for the technical and management approach offered, as well as to determine the proposer's practical understanding of the effort. This will be principally measured by cost per labor hour and number of labor hours proposed, by major capital expenditures and consumables in the early phases and likelihood of completing the effort on time and at the proposed cost. The evaluation non-cost factors recognize that undue emphasis on cost may motivate proposers to offer low-risk ideas with minimum uncertainty and to staff the effort with junior personnel in order to be in a more competitive posture. DHS-S&T discourages such cost strategies. Cost reduction approaches that will be received favorably include innovative management concepts that maximize direct funding for technology and limit diversion of funds into overhead.

2. **Full Proposals.** The factors to be used to evaluate and select proposals for award under this project are described in the following paragraphs. Each proposal will be evaluated on its own merit and the relevance of the specific proposal as it relates to the S&T program, rather than against other proposals for research in the same general area. *The following evaluation factors are listed in descending order of importance. Items under the individual evaluation factors are of equal importance.*

i. Technical Approach.

The proposed scientific/technical concept and methodology is clearly described and sound and includes a demonstrated understanding of the related technology and scientific challenges required for achieving the goals of the topic. The technical approach is innovative and/or has advantages over other solutions, if successfully implemented. Of importance is how the proposed technology will meet or exceed the performance requirements for this program. All critical scientific and technical issues are clearly identified, and the planned development approach and risk-mitigation efforts are clearly defined and feasible.

Milestones, task descriptions, and associated technical elements provided are complete and in a logical sequence with all proposed deliverables clearly defined such that a final product that meets and/or exceeds the proposed performance can be expected as a result of an award. The following items will be evaluated:

- Innovation, technology uniqueness, and realism.
- Understanding of the problem and methods to address the systems capabilities and requirements as described in Sections 6.2, 6.3 and 6.4.
- Concept of operation, scalability, and integration with existing equipment and DHS unclassified and classified networks to include how the system will be developed and demonstrated.
- Understanding of the current state-of-the-art technology.
- Use of open standards for technical solutions.
- Identification of key performance metrics and methodology for assessing technical progress.
- Identification of the critical issues and risks and proposed mitigation plans for executing the effort.
- Identification and description of the critical path to involving RDMB and NISAC.

ii. Management Approach.

Sound managerial approach to the proposed work, including a demonstrated understanding of the critical technology challenges required for achieving the goals of the topic, and a strategy to address those issues, including a risk mitigation strategy and the uniqueness of the approach. The management approach should demonstrate the ability of the proposers to work with the responder community, build consensus, and provide a solid approach for managing the development and deployment of RACE in NISAC environment.

Recognizing that proper management of a program can either debilitate or enhance the results, S&T will review proposals for attention to schedule and budget management approach for completing all task milestones on time and on budget. The following will be evaluated:

- Clear and sound approach for program management and coordination among all team members and organizations and the level of proactive management involved in achieving the program goals and objectives.
- Organizational structure of the proposal team.
- Clear delineation of milestones and tasks among all team members.
- Plan for managing technical, schedule, and cost risks.
- Management experience of program manager or program management team.
- Utilization of appropriate management tools for timely dissemination of program information.

iii. Capability and Experience of Team in Advanced Technology Development.

Capability to perform proposed work and history of performance of the proposers and any team members in developing related technologies. This factor includes the skills, experience, and certification of the proposed team as well as the proposed facilities to accomplish the work.

The following items will be evaluated:

- Prior experience in related efforts demonstrating an ability to perform development and advanced technology prototyping of hardware and software systems.
- Demonstrated ability to develop and deliver products that meet or exceed the proposed operational and technical performance within the proposed budget and schedule.
- The proposed team is sufficiently complete: key personnel are identified with the required range of competencies to execute this effort and the team includes appropriate experience.
- Demonstrated experience with and understanding of the responder community needs and operational requirements and constraints.
- Level of reach back and capabilities; partnerships with large/small private/public/educational institutions, as needed.

iv. Cost Realism.

The objective of this factor is to establish that the proposed costs are reasonable and realistic for the technical and management approach offered, as well as to determine the offeror's practical understanding of the effort. This will be principally measured by cost per labor-hour and number of labor-hours proposed, by major capital expenditures and consumables in the early phases and likelihood of completing the effort on time and at the proposed cost. This evaluation factor recognizes that undue emphasis on cost may motivate proposers to offer low-risk ideas with minimum uncertainty and to staff the effort with junior personnel in order to be in a more competitive posture. S&T discourages such cost strategies.

VII. SELECTION PROCESS. All members of this panel will be screened for procurement integrity and conflicts of interest. The final selection, made by the DHS-S&T's designated Source Selection Authority, will be based upon the BAA's stated evaluation factors for WPs and FPs, program balance and priorities, availability of funds, and applicable statutes and regulations. Any other materials, including external letters of support, are discouraged and will not be considered as part of the review process, with the exception of letters of commitment from proposed teaming partners/subcontractors or prospective employees.

Offerors who submitted White Papers must request feedback (if desired) within three (3) days of receiving notice regarding whether or not the offeror is encouraged to submit a full proposal. Offerors who submitted White Papers that were discouraged from submitting a Full Proposal will not be formally provided feedback.

- A. Conflicts of Interest and Confidentiality.** During the review process, extreme care will be taken to prevent any actual or perceived conflicts of interest that may impact the review or evaluation of proposals. For the purpose of determining conflicts of interest, all evaluators and support staff are asked to complete and sign conflicts of interest and non-disclosure agreement.

Names of submitting institutions, partner institutions and participants, as well as application content and internal evaluations, will be safeguarded from unauthorized

disclosure. In addition, the identities of reviewers will remain confidential and will not be released to the extent permitted by law.

VIII. ADMINISTRATION INFORMATION.

1. Reporting.

The following minimum deliverables will be required under traditional procurements awarded to those offerors whose full proposals are selected for negotiation.

2. Monthly Program Report.

Brief narrative reports (not more than two pages) will be electronically submitted to the program manager within one week after the last day of each month (not more than two pages). These reports will describe: the previous calendar month's activity; technical progress achieved against goals; difficulties encountered; recovery plans (if needed); explicit plans for the next calendar month; and financial expenditures (including expenditures during the past calendar month period plus cumulative expenditures, and projected expenditures for the coming calendar month).

The following deliverables, primarily in contractor format, are anticipated as necessary. However, specific deliverables should be proposed by each Offeror and finalized with the contracting officer's technical representative (COTR).

- Technical and Financial Progress Reports.
- Presentation Material.
- Other Documents or Reports.
- Final Report.

3. Project Meetings and Reviews.

Program status reviews may also be held to provide a forum for reviews of the latest results from experiments and any other incremental progress towards the major demonstrations. These meetings will be held at various sites throughout the country. For pricing purposes, offerors should assume that forty percent of these meetings will be at or near DHS-S&T, Washington D.C., and sixty percent at contractor or other government facilities. Interim meetings are likely, but these will be accomplished via video telephone conferences, telephone conferences, or web-based collaboration tools.

4. Additional Deliverables.

Performers may define program-specific deliverables as appropriate for the proposed approach, in addition to those required elsewhere in this document.

IX. OTHER INFORMATION.

1. Government-furnished Property, Government-furnished Equipment (GFE), Government-furnished Facilities and Contractor-acquired Property.

Each Offeror must provide a specific description of any equipment/hardware/software that it needs to acquire to perform the work. This description should indicate whether or not each particular piece of equipment/hardware will be included as part of a deliverable item under the resulting award. Also, this description should identify the component, nomenclature, and

configuration of the equipment/hardware that it proposes to purchase for this effort. It is the Government's desire to have the contractor purchase the equipment/hardware for deliverable items under their contract. It is the Government's desire to provide all required IT hardware, software and datasets as GFE for those components that will be connected to a DHS unclassified or classified network. The purchase on a direct reimbursement basis of special test equipment or other equipment that is not included in a deliverable item will be evaluated for allow ability on a case-by-case basis. Maximum use of Government integration, test, and experiment facilities is encouraged in each of the Offeror's proposals.

Government research facilities and operational DHS-S&T units may be available and should be considered as potential government-furnished equipment/facilities. These facilities and resources are of high value, and some are in constant demand by multiple programs. It is unlikely that all facilities would be used for conducting simulation experiments.

2. SAFETY Act.

As part of the Homeland Security Act of 2002, Congress enacted the Support Anti- Terrorism by Fostering Effective Technologies Act of 2002 (the "SAFETY Act"). The SAFETY Act puts limitations on the potential liability of firms that develop and provide qualified anti-terrorism technologies. DHS S&T, acting through its Office of SAFETY Act Implementation (OSAI), encourages the development and deployment of anti-terrorism technologies by making available the SAFETY Act's system of "risk management" and "liability management." Offerors submitting proposals in response to this BAA are encouraged to submit SAFETY Act applications for their existing technologies. They are invited to contact OSAI for more information at 1-866-788-9318 or helpdesk@safetyact.gov. They also can visit OSAI's website at: www.safetyact.gov.

3. Test and Evaluation Facilities.

The U. S. Department of Homeland Security's Science & Technology Directorate may make available appropriate test and evaluation facilities to support this program. Offerors should provide any specific requirements needed for test and evaluation of their proposed concept in their full proposals.

4. Privacy Act

The Privacy Act establishes a framework that governs how federal agencies collect, maintain, use, and disseminate personally identifiable information about individuals that is maintained in a system of records. The Privacy Act can be found at: <http://www.justice.gov/opcl/privstat.htm>. The DHS Privacy Office also creates and implements privacy policies for the Department to ensure that privacy protections are considered throughout all Department activities. More information on the DHS Privacy Office and policies can be found at: www.dhs.gov/privacy.

5. Certified Cost and Pricing Data

As applicable the successful Offeror will be required to submit Certified Cost and Pricing Data, as is required in accordance with TINA (Truth in Negotiations Act), which requires submission of Certified Cost & Pricing Data for any award greater than \$650,000 (reference FAR 15.403-4(a)(1)).